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Translation

## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PaC203033PCT</b>	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. <b>PCT/FR2004/001132</b>	International filing date ( <i>day/month/year</i> ) <b>07.05.2004</b>	Priority date ( <i>day/month/year</i> ) <b>07.05.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>C03C3/078</b>			
Applicant <b>SAINT-GOBAIN GLASS FRANCE</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of _____ sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the report</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FR2004/001132

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- international search (Rule 12.3 and 23.1(b))
- publication of the international application (Rule 12.4)
- international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished  
 the description:

pages 1-8 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

nos. 1-14 as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

sheets \_\_\_\_\_ as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/FR2004/001132

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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## 1. Statement

Novelty (N)	Claims	1 - 14	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1 - 14	NO
Industrial applicability (IA)	Claims	1 - 14	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

## 1. Reference is made to the following documents:

D1: WO-A-98 40320

D2: DATABASE WPI, section Ch, week 200233, Derwent Publications Ltd. London GB, Class L01, AN 2002-285087, XP002251821

D3: DATABASE WPI, section Ch, week 20035, Derwent Publications Ltd. London GB. Class L01, AN 2000-407015, XP002251822

D4: EP-A-0 795 522

D5: FR-A-2 758 550

D6: WO-A-96 11887

2. The present application fails to comply with the requirements of PCT Article 33(1) since the subject matter of claims 1 to 14 does not involve an inventive step as defined in PCT Article 33(3).

2(a) D1 (page 1, lines 11-31; page 5, line 29 to page 6, line 15; page 6, lines 29-31; page 7, lines 18-24; page 8, line 14 to page 12, line 32; page 13, lines 5-26; page 16, line 1 to page 17, line 27; page 18, examples 1 to 12; claims 1 to 7, 9, 17

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

PCT/FR2004/001132

**Box No. V** **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

and 18) discloses:

- a glass composition (float glass)
- suitable for making heat-stable plates or substrates (light-emitting screens, plasma screens, field-emission displays, fire-proof glazing)

having the following essential components (claim 16):

- SiO<sub>2</sub> 55-75 wt %
- ZrO<sub>2</sub> 3-8 wt %
- Na<sub>2</sub>O 4.5-8 wt %
- K<sub>2</sub>O 3.5-7.5 wt %
- CaO 7-11 wt % and
- Al<sub>2</sub>O<sub>3</sub> 0-5 wt %.

D1 (pages 12, 13) discloses the following:

- Na<sub>2</sub>O + K<sub>2</sub>O is more than 8 %, preferably more than 10 %,
- K<sub>2</sub>O/Na<sub>2</sub>O is at least 1.2,
- MgO + CaO + SrO + BaO is at least 12 %.

D1 (page 9) discloses a thermal expansion coefficient of 80 to 85  $\times 10^{-7}$  °C<sup>-1</sup>.

As regards glass in which Al<sub>2</sub>O<sub>3</sub> is an essential component, D1 (claim 9) discloses, for example:

SiO <sub>2</sub>	69,6 %
Al <sub>2</sub> O <sub>3</sub>	0.9 %
ZrO <sub>2</sub>	2.6 %
Na <sub>2</sub> O	7.1 %
K <sub>2</sub> O	2.9 %
CaO	10.5 %
MgO	2 %

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/FR2004/001132

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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SrO 3.9 %

Fe<sub>2</sub>O<sub>3</sub> < 0.15 %

other oxides &lt; 0.5 %.

Claim 1 of the present application differs from this glass in that the K<sub>2</sub>O and SrO contents are higher.

It follows that the subject matter of claim 1 of the present application differs from D1 in that:

- The combination SiO<sub>2</sub> + Al<sub>2</sub>O<sub>3</sub> + ZrO<sub>2</sub> + Na<sub>2</sub>O + K<sub>2</sub>O + CaO + SrO contains the essential components in with the respective contents thereof.

D1 (page 12) describes how:

- Na<sub>2</sub>O and K<sub>2</sub>O are important for the float glass melting point and viscosity and the K<sub>2</sub>O content is advantageously increased in order to fluidise the glass without lowering the strain point thereof, and
- SrO enables the lower annealing point and chemical resistance to be raised.

D2 (see the abstract) describes how Al<sub>2</sub>O<sub>3</sub> is an essential component alongside SiO<sub>2</sub>, MgO, CaO, ZrO and K<sub>2</sub>O in glass for use in field-emission displays and plasma screens.

D3 (see the abstract) describes how a combination of SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, B<sub>2</sub>O<sub>3</sub>, R<sub>2</sub>O and R<sub>2</sub>O with ZrO<sub>2</sub> is essential for adjusting the thermal expansion coefficient.

D4 (see page 2, lines 30-37; page 3, lines 25-31;

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**International application No.  
PCT/FR2004/001132**Box No. V** **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

examples 7 and 12; claims 1 to 7) describes how achieving a thermal expansion coefficient equivalent to that of soda-lime-silica glass requires properly selected SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, ZrO and K<sub>2</sub>O contents, and how SrO is essential to reduce viscosity (float glass).

A person skilled in the art aware of the subject matter of documents D1 to D4 and the simple examples based on the teaching of D1 to D4 would select the most suitable SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, Na<sub>2</sub>O, K<sub>2</sub>O, CaO and SrO contents.

It follows that the subject matter of claim 1 of the present application fails to comply with the requirements of PCT Article 33(1).

Dependent claims 2 to 12 and claims 13 and 14 do not contain any features which, when combined with the features of any one of the claims to which they refer, might define subject matter that complies with the requirements of novelty and/or inventive step of the PCT (see documents D1 to D4 and the corresponding passages cited in the search report).